

Amendments to the Specification.

Please replace paragraph [0014] with the following paragraph:

[0014] Referring now to FIG. 1, a preferred embodiment of the present invention is shown. The embodiment comprises an information processing system 100 comprising a magnetic memory array 102 that is managed and utilized by a processor 104. A memory read circuit 106 reads information stored in the magnetic memory array 102 and a memory write circuit & 108 writes information to the magnetic memory array 102. A magnetic field sensor 110 senses the magnetic field 119 strength in the vicinity of the magnetic memory array 102 and provides a signal that represents the field strength to the processor 104. In a similar fashion, a temperature sensor 112 such as a thermocouple or other thermometric device senses the local temperature and provides a signal representing the sensed temperature to the processor 104. The temperature and the magnetic field 119 are preferably sensed as close to the magnetic memory array 102 as possible such that the magnetic field 119 and temperature sensed by the sensors 110 and 112 respectively approximates that of the magnetic memory array 102. In addition, while single sensors 110 and 112 are shown in FIG. 1 as located in the information processing system 100, it will be appreciated that an array of sensors 110 and 112 could be placed in various locations surrounding the magnetic memory array 102. A magnetic field generator 114 is provided that is controlled by the processor 104 to produce predetermined compensating magnetic fields to compensate for the ambient magnetic fields in the environment. Likewise, a temperature controller 116 is selectively controlled by the processor 4 to maintain a substantially constant temperature in the local environment of the magnetic memory array 102. The magnetic memory array 102 and associated components are preferably surrounded by magnetic shielding 118 that reduces the magnetic fields surrounding the memory array 102.

Please replace paragraph [0018] with the following paragraph:

[0018] Referring now to FIG. 2, a representation of an environment 200 wherein a system in accordance with the invention can be advantageously used is shown. In FIG. 2, a first remote magnetic memory array 220 located in a local environment A 224 and a second magnetic memory array 222 located in a local environment B 226 are connected by an internet connection, central processor or local network ~~28~~ 228. Each magnetic memory array 220 and 222 has its own associated local magnetic compensation system 230 and 232. The local magnetic compensation systems 230 and 232 have their own local sensors, as described in more detail above with respect to FIG. 1, that allow the compensation systems 230 and 232 to correct for changes that in their respective local environments A 224 and B 226. Thus, if a larger than expected magnetic field is present in local environment A 224, the local magnetic compensation system 230 can lower the write current used to write to the magnetic memory array 220 such that the desired net write fields are used for the selected word and bit lines. In a similar manner, the write current can be varied to produce the desired half-select fields for half-selected bits.